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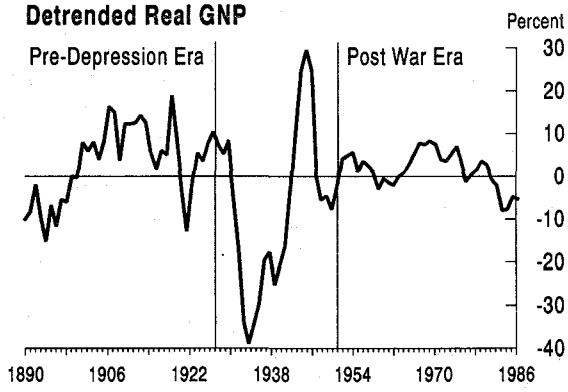
Postwar Stability: Fact or Fiction?

All conventional measures indicate that U.S. business cycles in the post-World War II period have been much less severe than were earlier cycles. For example, the peak-to-trough decline in detrended real GNP (that is, GNP that has been adjusted to remove secular growth trends) averaged eight percent from 1893 to 1927, but only 4.4 percent since 1951. This disparity would be even greater if the Great Depression of the 1930s were included in the prewar measure. Likewise, the peak-to-trough rise in the unemployment rate for the pre-Depression period was five percentage points, compared to only 1.9 percentage points in the postwar period.



Many have attributed the increased stability of the postwar economy to the success of Keynesian macroeconomic policies aimed at fine-tuning the economy. Actively managed monetary and fiscal policies, it is argued, partially have offset output declines during recessions by supporting aggregate demand and reined in excess output growth during booms by slowing aggregate demand growth.

This traditional interpretation has been called into question in recent years on several fronts. For example, real-business-cycle theorists have questioned this interpretation on theoretical grounds. Another, and altogether different, line of attack has come from reinterpretations of the economic data. This *Letter* discusses the argument advanced by University of California economist Christina Romer that the postwar stability of GNP is a "figment of the data." According to Romer, the apparent stability of the postwar economy relative to earlier periods largely reflects improvements that have been made in measuring economic activity. If this view is correct, it suggests that statisticians, not economists, are responsible for the decline in business cycle fluctuations.

Measuring GNP

The fluctuations in detrended real GNP shown in the Chart are based on the standard government series on the level of the economy's output. However, these data do not represent a consistent series, in that the methods used to estimate GNP have changed over time. These changes reflect improvements in the quality and quantity of statistics that are available to the national income accountants who construct GNP.

The data on prewar GNP largely are based on work done by Simon Kuznets, who was awarded the Nobel Prize in economics in 1971 in recognition of his important work on economic measurement. To obtain a measure of GNP for the period from 1869 to 1919, Kuznets constructed data on value-added for each sector of the economy from the available data on commodity output (specifically, output in agriculture, mining, and manufacturing), valued at producer prices. He then assumed that percentage deviations from trend in GNP were equal to the percentage deviation from trend in commodity output.

However, this assumption is open to challenge. In the postwar era, value-added in distribution and transportation, which is incorporated in GNP, but not in commodity output, is not as cyclically sensitive as commodity output is. If this was also true of the prewar period, Kuznets's method has overstated the cyclical fluctuations in sectoral output and GNP.

Since postwar experience calls into question Kuznets's assumption of a one-for-one correspondence between fluctuations in commodity output and GNP, Romer suggests an alternative

approach. She estimates the relationship between GNP and commodity output in the postwar period and then constructs a measure of prewar GNP based on the assumption that the estimated postwar relationship between GNP and commodity output applies to the prewar data. Although it uses the same series on commodity output that Kuznets used, Romer's new GNP series for the period from 1893 to 1927 produces an average peak-to-trough decline in GNP of 4.8 percent, close to the 4.4 percent figure for GNP from 1951 to 1980. This one change in the assumptions used to estimate GNP seems to eliminate almost completely the greater stability of the postwar period.

Industrial production

Although GNP provides the most comprehensive measure of economic activity, the index of industrial production also is commonly used to measure business cycle fluctuations. A series on industrial production for the U.S. is available beginning in 1860. This series also indicates a marked decline in the amplitude of the business cycle when the postwar era is compared to earlier experience. For example, the average amplitude of cyclical fluctuations in detrended industrial production was almost 30 percent higher in the period from 1866 to 1914 than it was from 1947 to 1982.

Here again, Romer has questioned whether this comparison simply reflects changes in the quality of the underlying series on industrial production. The Federal Reserve has constructed a consistent series on industrial production that begins in 1919. Prior to 1914, the series is based on work by Edwin Frickey, published in 1947. A major difference between the two series is in the range of manufactured commodities included in each; the Federal Reserve index incorporates over 200, Frickey's includes only 40.

This difference in coverage does not, by itself, necessarily imply any bias. However, bias would arise if the 40 commodities included in the pre-1914 index exhibited cyclical behavior that differed systematically from that of the manufacturing commodities included in the Federal Reserve index. For example, to the extent the 40 commodities are especially sensitive to cyclical movements, Frickey's index will over-estimate cyclical fluctuations relative to the more complete Federal Reserve index. This, Romer argues, is exactly what has happened.

Data are not available that would allow the Federal Reserve index of industrial production to be consistently constructed for the period prior to 1919. However, it is possible to construct a consistent, but poor, index of industrial production by applying Frickey's exact methods to the postwar data. By effectively holding constant the measurement method, such a series might shed light on how much of the difference between the Frickey and Federal Reserve indices are due to their construction and how much really reflect differences in the economy's cyclical behavior.

The results Romer obtains by exactly replicating Frickey's methods over the postwar period are quite dramatic. Romer's index shows no difference in the magnitude of cyclical fluctuations between the 1866–1914 and the 1947–1982 periods. Taken at face value, this would seem to indicate that postwar stability simply reflects postwar methods of measuring fluctuations rather than any fundamental change in the economy.

The unemployment rate

The increased stability of the unemployment rate in the postwar era, perhaps more than the evidence from either the GNP or industrial production series, might be taken to indicate the success of macrostabilization policy in the postwar period. After all, recession-induced increases in unemployment are rightly viewed as costly both to society and to the individuals who become unemployed. Thus, if the seemingly greater stability of the unemployment rate in the postwar period can withstand reevaluation, one still might be able to conclude that the economy's ability to minimize cyclical fluctuations had improved since World War II.

Once again, however, Romer argues that our standard series on unemployment provides a misleading comparison of the pre- and postwar periods. Unemployment rate estimates prior to 1930 are based on the work of Stanley Lebergott, who calculated unemployment as the difference between the estimated size of the labor force and estimated employment. Romer argues that Lebergott's measure of the labor force fails to move

with the business cycle in the prewar period. Yet in the postwar period, we know that the labor force has moved procyclically. During recessions, workers have tended to drop out of the labor force, perhaps because they become discouraged by their inability to find employment. As a result, the measured labor force has shrunk during recessions. During economic booms, the opposite has occurred and the labor force has expanded.

If similar behavior characterized the prewar era, Lebergott's labor force measure underestimates the labor force (and therefore unemployment) during booms and overestimates the labor force (and unemployment) during recessions. Moreover, Romer argues that the methods used to measure employment in the prewar period reinforce this tendency to overstate fluctuations in unemployment.

After attempting to adjust for these measurement problems, Romer concludes that the greater stability in the unemployment rate in the postwar period is much less evident. In fact, Romer's corrections eliminate almost 75% of the postwar reduction in the average cyclical fluctuation in the unemployment rate. Thus, reevaluation of the usual measure of the unemployment rate appears to lead to the same conclusion as reevaluation of the GNP and industrial production data: seemingly greater postwar economic stability may simply reflect improvements in economic measurement.

New measures of prewar GNP

Romer's arguments have sparked an important debate in macroeconomics. One positive outcome of that debate has been new efforts to construct consistent measures of U.S. GNP that would allow pre- and postwar periods to be compared. Previous comparisons too often compared "poor" prewar data with "good" postwar data. Some of the comparisons discussed in this *Letter* have involved comparing "poor" prewar data with "poor," but at least consistent, postwar data. For example, the pre-World War I series on industrial production was compared to a postwar series constructed using the same methods and limited coverage as had been used to obtain the earlier series. The conclusions drawn from such a comparison would carry more weight if a "good" prewar series could be compared with a "good" postwar series.

Recent attempts to estimate GNP in the late nineteenth and early twentieth centuries rely on the data series that are available and on what economists have learned about the relationships between such series and total GNP in the postwar period. Economists Nathan Balke and Robert Gordon, for example, have supplemented the basic series on commodity output used by Romer with direct measures of noncommodity output for the period before 1909. They employ a more disaggregated approach than Romer in order to take advantage of consistent data that do exist for some components of GNP.

Balke and Gordon also argue that price series used by previous researchers to convert nominal GNP into real GNP were too volatile since these series were based on wholesale materials prices and not on the more stable consumer prices. By using a more stable price series, Balke and Gordon attribute less of the volatility in nominal GNP to prices and more to real GNP. They conclude that the conventional wisdom was right; the postwar period has exhibited much greater stability. In fact, their estimates suggest the standard series may even have understated the decline in volatility in comparing the post-1947 period to the pre-1928 period.

Is the apparent reduction in economic instability during the postwar period in the U.S. fact or fiction? Although more research is needed before a definitive answer will be available, it appears that the old view of greater postwar stability may be weakened but not overturned. In any event, the debate serves to remind us that the way we see the economy depends importantly on the quality of our economic statistics.

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